


**DEFENSE INFORMATION SYSTEMS AGENCY**  
Interoperability Directorate, 5600 Columbia Pike, Falls Church, VA 22041-2717  
**SYMBOLGY STANDARDS MANAGEMENT COMMITTEE DIRECTIVE**

<b>SSMC NO: 2-03</b>		<b>Date: July 24, 2003</b>																																									
<b>CP No: MIL03-01</b>		<b>Title: Area of Uncertainty Graphic Modifier</b>																																									
<b>Originator, Name and Address:</b>  SPAWAR																																											
<b>SSMC Action:</b>  <input checked="" type="checkbox"/> <b>Approved</b> <input type="checkbox"/> <b>Approved with Changes</b> <input type="checkbox"/> <b>Withdrawn</b> <input type="checkbox"/> <b>Deferred</b> <input type="checkbox"/> <b>Declared Substantive</b> <b>By:</b> <input type="checkbox"/> <b>Disapproved</b> <input type="checkbox"/> <b>Testing Required</b> <input type="checkbox"/> <b>Prior to Decision</b> <input type="checkbox"/> <b>Subsequent to Decision</b> <input type="checkbox"/> <b>Allied Coordination Required</b>  <b>Votes Cast/Proposed Change</b> <table style="width: 100%; border: none;"><thead><tr><th style="text-align: left;">Approve</th><th style="text-align: left;">Disapprove</th><th style="text-align: left;">Abstain</th><th style="text-align: left;">N/A</th><th></th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>USA</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>USN</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>USMC</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>USAF</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>NIMA</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>DIA</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>DISA</td></tr></tbody></table>		Approve	Disapprove	Abstain	N/A		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	USMC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USAF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NIMA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DIA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DISA	<b>Decision:</b>  Approved as submitted.	
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		<b>Chairperson</b> <div style="text-align: center;"> (Signature)</div>																																									

SYMBOLGY CONFIGURATION MANAGEMENT CHANGE PROPOSAL FORM			
CHANGE PROPOSAL NUMBER		MIL03-01	
ORIGINATOR	SPONSOR	DATE RECEIVED	DATE OF ACTION
SPAWAR	NAVY	January 31, 2003	July 24, 2003
CHANGE PROPOSAL TITLE			
Area of Uncertainty Graphic Modifier			
SUGGESTED CHANGE			
<p><b>1. <u>STATEMENT OF THE PROBLEM:</u></b> MIL-STD 2525B does not contain a graphic modifier to represent an Area of Uncertainty (AOU) for a tactical object (e.g., a track). An AOU indicates the area where the track represented by a symbol is most likely to be, based on the track's last report and the reporting accuracy of the sensor that detected the track. An AOU may appear as an ellipse, a bearing box, or a line of bearing, depending on the report received for the track. The Common Operating Environment (COE) community and operational users require the ability to display an AOU as a symbol modifier.</p> <p><b>2. <u>PROBLEM ANALYSIS:</u></b> The COE provides the software for rendering the Common Operational Picture (COP) by the C4I systems of record being fielded by the military services. The Software Requirements Specifications for COP and related COE services identify joint visualization requirements for the display of track information and include support for various graphic modifiers, one of which is an AOU. These modifiers are available in the COP provided by the v3.X COE software which is used in fielded systems such as GCCS and GCCS-M. These modifiers are also supported in the v4.X COE software in order to provide feature completeness with regard to v3.X functionality. The v4.X COE will be used by the C4I systems of record fielded by the military services over the next several years. The default configuration for COP using the v4.X COE is to provide symbology that complies with MIL-STD 2525. Graphic modifiers such as an AOU need to be added to the MIL-STD so the COE and the systems using it are able to both comply with the MIL-STD and satisfy the joint visualization requirements that have been identified by the military services.</p> <p><b>3. <u>PROPOSED SOLUTION:</u></b> Add the following types of AOUs to the MIL-STD.</p> <p>(a) Ellipse AOU – A rotated ellipse.</p> <p>Geometry: Center lat/long, bearing in degrees, semi-major, semi-minor in Nautical miles. Graphics: Polyline, closed, not filled, solid line.</p> <p>(b) Bearing Box AOU – A rotated rectangle.</p> <p>Geometry: Center lat/long, bearing in degrees, length and width in Nautical miles. Graphics: Rectangle, not filled, solid line.</p> <p>(c) Line of Bearing AOU – A bearing “center” line, bearing error “V” lines, not always shown.</p> <p>Geometry: Lat/long position (start of bearing line), bearing in degrees, line length in Nautical miles, (twice the range estimate), bearing error in degrees. The bearing error determines the dotted "V" lines and is the angle from the bearing line to one of the bearing error lines. The bearing error lines are symmetric on either side of the bearing line. The length of the bearing error lines is equal to the bearing length, again in Nautical miles. Graphics: Bearing line, solid. Bearing error lines, if shown, dashed.</p> <p>Note 1: The Line of Bearing AOU differs from the Bearing Line tactical graphics in 2.X.6.4 of the MIL-STD.</p> <p>Note 2: This CP requests that the three types of AOU be defined as a symbol modifier. However, AOUs might also be defined as tactical graphics that are “attached” to a symbol and are dynamically updated as the symbol position changes.</p>			

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<p>4. <u>ALTERNATE SOLUTIONS</u>: Not provided.</p> <p>5. <u>AFFECTED DOCUMENTATION</u>: Not provided.</p> <p>6. <u>IMPACT ON OTHER STANDARDS</u>: Not provided.</p> <p>7. <u>INCORPORATION DATE</u>: Not provided.</p> <p>8. <u>OTHER CONSIDERATIONS</u>: Not provided.</p> <p>9. <u>REFERENCES</u>: Not provided.</p> <p>10. <u>ATTACHMENTS</u>: Attachment 1 - Examples of Ellipse AOU, Bearing Box AOU, and Line of Bearing AOU With and Without Bearing Error Lines</p>			
DECISION NOTICE			
Approved at SSMC 2-03.			

Attachment 1 - Examples of Ellipse AOU, Bearing Box AOU, and Line of Bearing AOU With and Without Bearing Error Lines

